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SCIENTIFIC RESEARCH, FOREST ASSESSMENT AND DEVELOPMENT OF CRITERIA AND INDICATORS FOR SUSTAINABLE FOREST MANAGEMENT

Programme element III.2: Criteria and indicators for sustainable forest management

Report of the Secretary-General

SUMMARY

Initial discussions at the second session of IPF on programme element III.2 were based on a comprehensive overview of work to date carried out on the development of national-level criteria and indicators for sustainable forest management; an examination of geographical and ecological coverage of various international initiatives; and comparability between criteria and indicators developed by them. The present document reviews the current status of international work in this field and assesses recent developments, with special reference to issues raised by the Panel at its second session. The report notes the greatly increased awareness of the possibilities offered by criteria and indicators and challenges posed by the sustainable management of all types of forests. It urges the international community and individual countries to use this opportunity to increase further their support to national policies and institutions and, through early implementation, involving all concerned parties, help demonstrate the validity of concepts developed. The report stresses the need to maintain a flexible approach, to accommodate divergent socio-economic and environmental conditions and capacities, to facilitate incorporation of new findings and to accommodate emerging needs. It points to areas in which action should be intensified, and highlights some issues which are in need of further clarification. It offers some suggestions for action at the national and international levels for the consideration of the Panel.

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INTRODUCTION

1. The need to reconcile the productive functions with the protective, environmental, economic and social roles fulfilled by all types of forests was stressed forcefully in chapter 11, combating deforestation, of Agenda 21 1/ and in the "Forest Principles". 2/ In accordance with the calls for action made at the United Nations Conference on Environment and Development, Governments agreed to pursue, in cooperation with special interest groups and international organizations, "the formulation of scientifically sound criteria and guidelines for the management, conservation and sustainable development of all types of forests".

2. At its third session, the Commission on Sustainable Development requested the Intergovernmental Panel on Forests (IPF), established within its framework, to promote action which would help "encourage national implementation of criteria and indicators for sustainable forest management and study the feasibility of further developing internationally agreed upon criteria and indicators against which progress towards sustainable management of all types of forests could be measured, taking into account the specific regional and subregional conditions of forests and the diversity of economic, social and cultural environments". 3/ The Commission, further, requested that IPF review and support appropriate action to "facilitate the engagement of regions and countries not yet involved in developing criteria and indicators of sustainable forest management; share experiences in testing and implementing them; and examine the need to promote comparability and the appropriateness of convergence among international initiatives in this regard". 4/

3. In accordance with decisions taken at its first session in New York in September 1995, IPF undertook preliminary discussion of category III, programme element 2, on criteria and indicators for sustainable forest management, at its second session, held in Geneva in March 1996. 5/

4. The Secretary-General's report on criteria and indicators for sustainable forest management (E/CN.17/IPF/1996/10) presented a comprehensive review of work which had been carried out in the development of national-level criteria and indicators for sustainable forest management, examined the geographical and ecological coverage of ongoing international initiatives and efforts to further extend such coverage, and discussed comparability between the national-level criteria developed to date and the prospects of finding commonly applicable indicators to characterize those criteria, should that be considered desirable.

5. At its second session, IPF requested the Secretariat, in collaboration with relevant international institutions, to expand on some of the issues raised in the report and during the discussions. It also requested that, at its forthcoming sessions, information to be presented be regularly brought up to date and that possible new developments be drawn to its attention.

6. The present report takes into consideration paragraphs 12 and 15 of the Statement on Biological Diversity and Forests from the Convention on Biological Diversity to the Intergovernmental Panel on Forests (UNEP/CBD/COP/2/19).

7. The present report was prepared by the Food and Agriculture Organization of the United Nations (FAO) as the lead agency for programme element III.2, in consultation with the secretariat of the Ad Hoc Intergovernmental Panel on Forests in the Division for Sustainable Development of the Department for Policy Coordination and Sustainable Development of the United Nations Secretariat. Comments and contributions were received from the secretariat of the Inter-Governmental Seminar on Criteria and Indicators for Sustainable Forest Management (Finland), from the Center for International Forest Research (CIFOR), the United Nations Environment Programme (UNEP), the Economic Commission for Europe (ECE) and FAO/ECE. The report also takes note of the working list of indicators of sustainable development, being prepared in relation to chapter 8, Integrating environment and development in decision-making, and chapter 40, Information for decision-making, of Agenda 21.

8. It should be noted that the outcome of the Inter-Governmental Seminar on Criteria and Indicators for Sustainable Forest Management (ISCI), organized in Helsinki in August 1996 by the Government of Finland, in collaboration with FAO and other international organizations, in support of the work of IPF, was not available when the present report was being prepared. However, available background documents for ISCI were considered. The Panel may, therefore, wish to consider the recommendations of the Seminar as a complement to the present report.

I. OUTCOME OF DISCUSSIONS HELD BY IPF AT ITS SECOND SESSION

9. At the second session of IPF, in the initial discussions on criteria and indicators for sustainable forest management, based on the Secretary-General's report (E/CN.17/IPF/1996/10), countries expressed a range of views. A summary is given below.

10. The Panel expressed unanimous support for:

(a) Examining the possibilities for developing a global consensus on concepts, terms and definitions related to sustainable forest management;

(b) Promoting ways to expand and intensify activities in the identification of criteria and indicators for sustainable forest management, especially in the regions not yet involved in ongoing initiatives, including special ways and means to assist developing countries in which forests and woodlands are essential in meeting basic subsistence needs of rural populations and forest-dwelling peoples;

(c) Clarification of links between national-level and forest management unit-level activities;

(d) Promotion of ways and means to maximize the exchange of information, experiences and know-how at the global level, in all issues related to criteria and indicators.

11. The Panel expressed reservations regarding:

(a) Linking ecological zones in different geographical regions of the world, as a first step towards achieving internationally compatible criteria and indicators for sustainable forest management;

(b) Developing methodologies to quantify indicators currently recorded as qualitative and descriptive;

(c) Strengthening mechanisms aimed at promoting cross-sectoral linkages.

12. In addition, a number of points were discussed and debated, including the overall concept of criteria and indicators in achieving scientifically sound, technically valid and economically viable sustainable forest management, adapted to the diverse conditions and needs of individual countries; the scope of criteria, related to social, economic, cultural, religious and environmental values and benefits; the need fully to involve all concerned parties in the planning and implementation of sustainable forest management; the need to maintain a broad spectrum of indicators to reflect national realities; the need for flexibility to allow for the incorporation of new and emerging requirements of societies and the application of new research findings into the strategies developed; the development of criteria and indicators at the regional, national, and forest-management-unit levels, links and relationships between those levels, responsibilities in corresponding action and implementation; the possibilities and/or desirability to pursue convergence or harmonization at the international level; field testing at national and forest management unit levels; links with "Objective Year 2000" of the International Tropical Timber Organization (ITTO); the relationship between work on criteria and indicators for sustainable forest management, on the one hand, and forest product certification, on the other; the need to ensure that development and implementation of work in the field of criteria and indicators not be used in support of unilateral trade barriers for forest products or to restrict the status of a country in relation to official development assistance; and the need to pay due attention to those sections of the Forest Principles in which institutional, technical and financial assistance to developing countries was addressed.

II. CURRENT STATUS OF ISSUES RAISED BY IPF DURING ITS SECOND SESSION

A. Concepts

13. In the ongoing international dialogue on forests, it is generally recognized that criteria define the essential elements of sustainable forest management against which the sustainability of forests can be assessed. Each criterion relates to a key element of sustainability in forestry and is characterized by one or more related qualitative, quantitative or descriptive indicators. Through the periodic assessment of these indicators, the overall effects of forest management interventions or the consequences of non-intervention, or of the stresses associated with activities external to forestry (e.g., air-borne pollutants, climate change) can be objectively evaluated and action adjusted so as better to meet stated, overall national or

subnational aims and objectives. Overall sustainability requires that trends related to all agreed-upon indicators move in the same (desirable) direction, over time.

14. Indicators must be identified in the context of national realities. Not all indicators are quantifiable, and both quantitative and qualitative indicators, supplemented at times by descriptive indicators, will be needed to adequately reflect national realities and to facilitate periodic assessments, reporting and, ultimately, policy action which will lead to sustainable forest management practices.

15. Systematic and continued involvement of all concerned parties in all stages of the work, including governmental institutions, forest owners, the private sector, local and indigenous communities, indigenous and non-indigenous forest dwellers and relevant national non-governmental organizations, will be necessary in order to help ensure overall soundness of approach, timely implementation and sustainability of efforts over time.

B. Harmonization of terminology

16. Criteria specify the essential components of sustainable forest management, and they thus collectively provide an implicit, generally accepted definition for the current concept of sustainable forest management. Furthermore, most of the ongoing, international initiatives on criteria and indicators have elaborated lists of definitions related to key terms used by them. Although not entirely identical, those working definitions seem to be largely compatible. Almost all recent national and international forums concerned with criteria and indicators for sustainable forest management have stressed the need further to intensify efforts to reach global consensus on key concepts and terms used and to link this terminology to that used in other, related fields of forestry - for example, inventory, assessment and valuation.

C. Levels of implementation

17. Criteria and indicators for sustainable forest management have been identified over the past years at regional, national, and subnational (i.e., the forest management unit) levels. Although it is generally recognized that those levels are conceptually linked and that there is a need for countries to ensure consistency in approach at the national and subnational levels, there are still some unresolved issues concerning the relationships, especially when links between the implementation of criteria and indicators at the national and that at the forest management unit levels are being addressed.

18. It is widely acknowledged that every specific forest, in isolation, cannot meet all national-level criteria of sustainability. However, it is important for the forest management objectives in individual forests or forest management units to be complementary and for each of them to contribute collectively and in a coordinated manner to overall national goals of sustainability. In other words, it is acceptable - and indeed necessary - to prioritize and assign a hierarchy of priority values among agreed-upon criteria and among indicators

related to each criterion in any one forest, thus reflecting local circumstances, needs and priorities at any given time. Such prioritization must be determined within the framework of overall national plans, with due consideration to possible trade-offs through compensatory action in other forests or forest areas.

D. International coverage of initiatives

19. Significant progress has been made since UNCED in the conceptualization of ideas and in the identification of criteria and indicators for sustainable forest management in many parts of the world. At the request of countries concerned, international action is also under way increasingly to involve those countries and regions that, to date, have been largely outside the international initiatives on criteria and indicators.

20. An overview of the geographical coverage of ongoing and planned international initiatives on national level criteria and indicators for sustainable forest management is given in table 1. (See also sect. III below.)

Table 1. Geographical coverage of ongoing international initiatives

Ecological region and initiative	Number of countries	Forest area a/ (thousands of hectares)
Temperate and boreal forests b/		
Helsinki Process	38 c/	904 577
Montreal Process	12	1 500 000
Tropical forests		
ITTO producer countries	25	1 305 046
Tarapoto Proposal d/	8	540 000 e/
Dry-zone forests		
Sub-Saharan dry-zone Africa	27	278 021
Initiatives planned		
North Africa and the Near East f/	18	10 573
CCAD g/	9	21 755

a/ Information is based on FAO forestry papers, Nos. 112 and 124, and relates to forest area (excluding "other wooded lands").

b/ Some countries are represented in more than one initiative, notably Russia (with a forest area of 739,729,000 ha), which is included in both the Helsinki and the Montreal Process.

c/ Refers to Signatory States to Helsinki resolutions H1 and H2, plus those newly independent States which have, subsequently, participated in the work of the Helsinki Process; plus Albania, which did not originally sign the resolutions but which has recently participated in the work.

d/ Of the eight participating countries, only Suriname is not a member of ITTO.

e/ Amazonian forests only.

f/ FAO/FAO Regional Office for the Near East Expert Meeting, to be organized in collaboration with UNEP in Cairo, 15-17 October 1996.

g/ Expert Meeting to be organized by the Comisión Centroamericana de Ambiente y Desarrollo (CCAD) in collaboration with FAO, with the possible assistance of UNEP, in Costa Rica or Honduras in October or November 1996.

21. Present and proposed international initiatives have been focused on either geographical regions, as in the case of the Helsinki Process and the planned FAO/UNEP Near East initiative; on broad, ecological regions, as in the case of the Montreal Process (temperate and boreal zones), the UNEP/FAO dry-zone Africa initiative and the work of the ITTO (humid tropics); or on a combination of geographical and ecological regions, frequently carried out under the overall political and policy-level umbrella of regional or subregional groupings, as in the case of the Tarapoto proposals (the Amazon Cooperation Treaty countries) and the planned Central America initiative of the Comisión Centroamericana de Ambiente y Desarrollo (CCAD), FAO and UNEP.

22. While an eco-regional approach may facilitate scientific understanding, it is widely recognized that there is a need to ensure early endorsement of recommended action by intergovernmental forums or major political groupings, since political and policy-level acceptance is a precondition for lasting national commitment and continued country-level implementation. Relevant policy forums often operate at regional or subregional levels as well as at international levels. Accordingly, the continued need to pursue work at the level of geographical regions was strongly advocated by IPF at its second session.

E. Comparability of criteria and indicators

23. When the results of ongoing initiatives are reviewed, it may be noted that there is good correspondence between sustainability criteria. A summary of national-level criteria for sustainable forest management, formulated under five international initiatives, is presented in Table 2.

Table 2. Criteria identified in ongoing international activities

Criteria	HELS	MONT	ITTO	TARA	Dry-Z Africa
Level					
Forest management unit	No	No	Yes	Yes	No
National	Yes	Yes	Yes	Yes	Yes
Global	No	No	No	Yes	No
Thematic categories					
Forest resources					
Extent	Yes	- a/	Yes	- b/	Yes
Global carbon cycles	Yes	Yes	No	No	- c/
Forest ecosystem health and vitality	Yes	Yes	No	-	Yes

Criteria	HELS	MONT	ITTO	TARA	Dry-Z Africa
Biological diversity in forest ecosystems	Yes	Yes	- d/	Yes	Yes
Forest functions					
Productive	Yes	Yes	Yes	Yes	Yes
Protective and environmental	Yes	Yes	Yes	Yes	Yes
Development and social needs					
Socio-economic functions and conditions	Yes	Yes	Yes	Yes	Yes
Institutional framework					
Policy and legal framework, capacity to implement sustainable forest management	Yes e/	Yes	Yes	Yes	Yes

Note: The following abbreviations are used in the table: HELS, European Process; MONT, Montreal Process; TARA, Tarapoto Prcposal; and Dry-Z Africa for the proposal for the sub-Saharan dry-zone African countries. "Yes" means that the criterion is explicitly mentioned in the initiative in question; a dash (-) signifies that a criterion is not fully enunciated, although it may have been implicitly considered; and "No" signifies that no explicit or implicit reference has been made to the criterion in question.

a/ In the Montreal Process, the forest resource is not considered a separate criterion but rather an indicator for two other criteria: conservation of biological diversity; and maintenance of the productive capacity of forest ecosystems.

b/ In the Tarapoto Proposal the criteria "Extent of forest resources" and "Biological diversity" are merged into one criterion, "Conservation of forest cover and of biological diversity".

c/ In the dry-zone Africa proposal, the criteria "Global carbon cycles" and "Extent of forest resources" are merged into one criterion.

d/ ITTO has developed a set of supplementary guidelines addressing the issue of biological diversity, rather than including it as a criterion in its forest management guidelines.

e/ In the Helsinki Process the institutional framework criterion is included through descriptive indicators attached to each of the six other criteria.

24. An examination of table 2 shows that various countries engaged in different initiatives already agree upon and recognize common criteria, which are globally considered to be essential elements of sustainable forest management. It has also been argued by many that it might be feasible to formulate an internationally accepted "core set" of a limited number of common indicators.

25. However, at present, there is only a partial similarity between indicators identified to characterize national-level criteria among ongoing initiatives. Also, there are marked differences in assigning importance to various indicators between countries and among countries working under the umbrella of any one of the international initiatives. This reflects varying economic, environmental, social, cultural and religious values and needs, which operate within legal and policy frameworks usually specific to individual countries. There is general consensus that a broad spectrum of indicators should be maintained to accommodate such acknowledged differences.

26. The general global consensus on criteria, on the one hand, and the divergence in sets of indicators evidenced in ongoing work, on the other, is understandable. Recognition of the differences between the role of criteria and indicators is important in actual implementation of strategies developed. This consideration is also of particular importance when contemplating possible harmonization or convergence.

27. It has been noted that possible convergence need not necessarily affect all indicators in the same way: an international "core set" would most likely focus on some of the quantitative indicators related to biological and physical measures, which are more easily comparable between countries than are social indicators. 6/

28. The advantages of consensus are considered to lie in, inter alia, the possibility of incorporating common indicators into mechanisms such as the global forest resources assessment, thus facilitating both country-based reporting on progress towards stated, common aims and helping to determine overall international trends. A number of quantitative parameters included in FAO's periodic forest resources assessment and possible future national reports required under the Convention on Biological Diversity, the Framework Convention on Climate Change and the Convention on Combating Desertification and the information collected for the Convention on International Trade in Endangered Species of Wild Flora and Fauna (CITES) may potentially constitute such a core set.

29. According to some experts, striving for "universality" of indicators at international or regional level, at the expense of "specificity" applicable to a given country or to a group of like-minded countries with similar conditions, could potentially dilute progress made to date. Specificity of indicators, however, will not diminish the need to ensure that there is complete clarity about the nature of each indicator, the exact way in which it is measured, the determination of confidence limits, and perceived significance of trends over time.

30. While any process aimed at the promotion of overall convergence of criteria and indicators or international harmonization, if it were to be pursued, would

have to follow a careful, step-by-step approach, there is general agreement on the need vigorously to promote transparency and international dialogue aimed at promoting comparability and mutual recognition of the value of existing sets of indicators developed for given conditions.

31. Ensuring comparability between ongoing initiatives, exchanging valuable learning experiences and conceptually linking new and emerging initiatives to already operational ones will help avoid the proliferation of potentially incompatible approaches.

F. Implementation of criteria and indicators

32. The implementation of forest-sector strategies guided by an internationally accepted framework for criteria and indicators implies reconfirmation by countries of the relevance of defined criteria to the national situation and their adoption, in principle, by all concerned parties. It further implies that individual countries review and test the practical possibilities to measure and periodically assess specific indicators at the field level and that they assess their relevance to prevailing environmental, economic, social and institutional realities of the country concerned. Ultimately, criteria and indicators adopted at the national level will help guide national policies and may lead to adjustment of prescriptions, regulations and national legislation governing forest management practices in the country.

33. While conceptual thinking is well advanced, work is in its early stages in regard to actual implementation at the national and forest-management-unit levels.

G. Criteria and indicators, certification of sustainable forest management and labelling of forest products

34. There is general acceptance that criteria and indicators specified at the national level provide the necessary framework to guide the identification of criteria and indicators applicable at the forest-management-unit level, and that work at the latter level is the responsibility of individual countries. Performance assessments carried out at the forest-management-unit level, in accordance with internationally accepted definitions of sustainable forest management, can contribute directly to sustainable forest management practices. The labelling of forest products, including chain of custody controls, is more related to the trade and marketing aspects of what is broadly termed certification and would facilitate or catalyze improvements in sustainable forest management practices as a direct response to the "green" market signals and the associated competitive advantage.

35. Certification of products from sustainably managed forests means, in essence, setting performance standards for a given forest area. The specific links between initiatives aimed at improved forest management, on the one hand, and forest management certification as part of the labelling of forest products, on the other, are still unclear, and differences in opinion remain largely unresolved in international debate. The International Conference on

Certification and Labelling (26-31 May 1996, Brisbane, Australia) concluded that certification and labelling are potentially useful tools, among many others, for promoting sustainable forest management. Their efficacy - and that of others - needs further analysis and evaluation.

36. While one view considers certification a process that can promote sustainable forest management by rewarding "best practice" through market-driven incentives, another view holds that certification schemes can only be considered by countries after the successful and lasting implementation of sustainable forest management and that such schemes should thus be seen as a consequence of, rather than a tool for, development of sustainable forest management. Issues on forest management certification are more substantially discussed under programme element IV.

H. Exchange of experience and know-how, dissemination of information

37. There is general recognition of the continued need to share information and international experiences among various ongoing initiatives and duly to inform those countries and regions which have only recently joined the international debate on criteria and indicators for sustainable forest management. Largely compatible results, to date, can be seen as a clear indication of the benefits derived from this close and open dialogue, which has also served to increase participation and confidence among groups traditionally outside the forest sector.

III. ASSESSMENT OF RECENT DEVELOPMENTS: REASONS FOR OPTIMISM

A. Harmonization of concepts and terminology

38. Lack of internationally agreed definitions could potentially lead to contradictory viewpoints being encapsulated in the same conceptual framework. Efforts are under way to formulate common terminology. These efforts should help underpin a global consensus on key concepts and terms used in the international deliberations on criteria and indicators for sustainable forest management and help provide a common basis for discussion, thus fostering a wider understanding of issues, both within and outside the forest sector.

39. In accordance with international recommendations, an attempt has been made in such work to make maximum use of already existing globally accepted terms, such as the definitions of the Global Forest Resources Assessment programme, coordinated by FAO. 7/

40. In this regard, FAO is at present collaborating with the International Union of Forestry Research Organizations (IUFRO) to review forestry concepts and terms in use in a range of language groups, in some 25 countries, covering all regions of the world. The ongoing, first phase of the study is based on approximately 20 core terms and related concepts, originally defined in the Global Forest Resources Assessment 1990. 8/

41. A list of proposed concepts and terms related to criteria and indicators has been elaborated in the process leading up to the Inter-Governmental Seminar on Criteria and Indicators for Sustainable Forest Management (ISCI). This compilation built upon, and complemented, earlier attempts by various international initiatives and by FAO to define and help compile lists of definitions used by those initiatives.

42. Preparation currently under way of State of the World's Forests, to be published by FAO in the first half of 1997, and work within the framework of the Global Forest Resources Assessment 2000 have involved spending considerable time and resources harmonizing basic terminology on a global scale.

B. International coverage of initiatives

43. Promotion of action to expand work to countries and regions not involved in international initiatives has been recommended in a number of forums, including the FAO/ITTO Expert Meeting on the Harmonization of Criteria and Indicators for Sustainable Forest Management (February 1995), the twelfth session of the FAO Committee on Forestry (COFO), the Meeting of Ministers Responsible for Forestry (March 1995), and ultimately, the second session of IPF. FAO, in close collaboration with other concerned organizations (e.g., ITTO, the United Nations Development Programme (UNDP), UNEP, the International Union for Conservation of Nature and Natural Resources) has been requested to lead that international initiative.

44. In response to the above recommendations, the issue of criteria and indicators has been systematically included among the items discussed at the biannual Regional Forestry Commission meetings of FAO, which cover the six regions of the world. The following activities are planned:

(a) Expert meeting on criteria and indicators for sustainable forest management in the Near East (Cairo, Egypt, 15-17 October 1996), to be organized by FAO headquarters and the FAO Regional Office for the Near East, tentatively in collaboration with UNEP. The meeting will focus on dry areas in the countries of the Near East. The conclusions and recommendations of the experts will be conveyed to the Near East Forestry Commission at its twelfth session (21-24 October 1996) and will complement the secretariat note on criteria and indicators for sustainable forest management in the Near East;

(b) A workshop and expert meeting on criteria and indicators for sustainable forest management in Central America, to be organized by the Central American Commission on Environment and Development (CCAD) (Costa Rica or Honduras, October or November 1996), within the framework of FAO technical cooperation project, tentatively in collaboration with UNEP. Provisional plans have also been made to invite experts from certain Caribbean countries to the meeting as observers.

45. The Inter-Governmental Seminar on Criteria and Indicators for Sustainable Forest Management (ISCI) focused discussion on three background reports: "Achievements in the development of criteria and indicators for sustainable forest management"; "Examination of comparability and international

compatibility of criteria and indicators for sustainable forest management"; and "Implementation of criteria and indicators for sustainable forest management, and their use as policy instrument". A report on the conclusions and recommendations of the Seminar will be made available to IPF at its third session.

46. A Japan/Canada international workshop on integrated application of sustainable forest management practices will be organized in collaboration with FAO and ITTO (Kochi, Japan), 22-25 November 1996, in support of the work programme of IPF. The workshop will review possibilities and needs related to field-level application of sustainable forest management, in the light of international measures, national policies and practical experience of the implementation of sustainability concepts, to date. Based on specific case-studies, the workshop will propose options and strategies for action, which will be drawn to the attention of IPF at its fourth session. It is expected that they will be followed by pilot-level field implementation in a number of countries.

C. Implementation of criteria and indicators

47. A comprehensive effort to compile data for describing the state of national-level sustainable forest management is at present under way within the Helsinki Process. Results from a test enquiry on the 27 quantitative indicators adopted by the Helsinki Process were reported on at the Third Expert-level Follow-up Meeting of the Helsinki Conference. Data referring to the 1980s and the 1990s was provided by 30 of the 36 signatory States of the Helsinki Ministerial Conference, in resolutions H1 (Sustainable management of forests in Europe) and H2 (Conservation of the biodiversity of European forests), and by one country (Albania), which did not sign the resolutions. A more complete assessment may be carried out for the Third Ministerial Conference on the Protection of Forests in Europe, planned to be held in Lisbon, Portugal, in 1998.

48. In a meeting held in Australia in June 1996, countries collaborating in the Montreal Process reported on early efforts to gather data pertaining to the 67 indicators developed within its framework. A report on national progress will be prepared, based on information from collaborating countries, for the Commission on Sustainable Development at its fourth session, in early 1997. The secretariat of the Montreal Process plans to present a first approximation report on implementation, at the eleventh World Forestry Congress (Turkey, October 1997).

49. In recognition of the considerable information gaps identified in the course of the work and acknowledgement of the need for further research to facilitate implementation within the framework the Helsinki and the Montreal Processes, the Scientific Advisory Group and the Technical Advisory Committee have been established to help ensure soundness and scientific validity of approach and to identify research priorities. An international Project Advisory Panel also operates in support of the forest management unit, field-testing activities of the Centre for International Forestry Research (CIFOR). 9/

50. Following completion of the Global Forest Resources Assessment (FRA) 1990, FAO and the Economic Commission for Europe (ECE) are preparing for the Global Forest Resources Assessment 2000. The main thrust of the studies to date has been to provide information on forest areas and trends. However, the role of forests in supplying environmental services and non-wood products was also addressed to some extent in the 1980 and 1990 assessment. Those aspects will be further emphasized in FRA 2000, where an attempt will be made to compile data from different countries which are increasingly comparable in terms of completeness, consistency and quality. Efforts will be supported by parallel programmes aimed at country capacity-building.

51. Activities of the FRA programme will take into account the results of the European Forest Information and Communication System (EFICS), which was started by the European Forestry Institute in January 1996. The objectives of the project, funded by the European Union (EU), are to analyse the differences in national information systems, and to study the possibilities of harmonizing existing mechanisms for collecting forest-related data in national forest inventories. The project covers the 15 member States of the European Union, plus Norway and Switzerland.

52. Information on many quantitative indicators has already been collected, to various degrees, through existing international mechanisms, including agencies outside the traditional forest sector and in relation with chapters 8 and 40 of Agenda 21. Consequently, data on the share of the forest sector in the gross national product are collected by, inter alia, the Organisation for Economic Cooperation and Development (OECD) and by FAO; data on employment in forestry are assembled by OECD and the International Labour Organization (ILO). In the European context, data on the defoliation of forest trees are collected by the ECE/EU, within its International Cooperative Programme on the Assessment and Monitoring of Air Pollution Effects on Forests (IPC-Forests); data collection on soil conditions was begun recently by ECE/EU. Electronically processed information on forest fires in Europe has, over the past decade, been collected and disseminated by ECE/FAO; FAO has recently complemented the ECE/FAO European forest fire statistics by preliminary global data and is planning further to develop that area in the future, resources permitting. Efforts under way to harmonize reporting requirements under certain conventions relevant to forests (e.g., biological diversity, climate change and desertification) should be of value in future forest assessments.

53. Criteria and indicators may be applied at both the national and the forest-management-unit level. Although there are certain indicators, such as those related to the balance between different uses of the forest or to national policies, which are only applicable at the national level, the quantification of many national indicators is, in fact, derived from data collected at the forest-management-unit level. Action at national level must, therefore, necessarily forge links with activities at the forest-management-unit level.

54. In connection with work focused on testing criteria and indicators at the forest-management-unit level, CIFOR has developed a method in which members of an interdisciplinary team of experts, knowledgeable in national-level activities, regularly consults with relevant interested groups in relation to testing in particular forest-management units. This has made possible a

systematic exchange of ideas and a regular information flow from the national level "down" to the forest-management-unit level, and vice versa, thus providing opportunities to link the two levels within a consistent, conceptual framework.

55. Some other examples of field implementation which has provided useful feedback to national level activities are:

(a) Pilot projects - e.g., in Finland, Australia and Canada - which examine the applicability of national criteria and indicators at the subnational level (provincial, forest-management unit) and test the practical possibilities of measuring and assessing specified indicators in the field;

(b) Demonstration and model forests, established under the overall guidance of Canada in China, Gabon, Mexico, Russia and Viet Nam, among other countries, and in various provinces of Canada itself, in which information on general strategies and methods in sustainable forest management are translated into action at the operational scale;

(c) Sustainable forest management demonstration areas established in ITTO producer countries. Several projects have been started for testing strategies and methodologies for sustainable forest management at the forest-management-unit level. In connection with such testing, ITTO, in collaboration with the International Institute for Environment and Development (IIED) and the World Conservation Monitoring Centre (WCMC), has developed the Forest Resources Accounting System, to standardize the monitoring of forest conditions and management and thus to facilitate comparable reporting. The System is currently being tested in Cameroon, Ecuador and Indonesia.

56. Decision XX/18 (23 May 1996) of the International Tropical Timber Council, relating to the ITTO mid-term review of progress towards the achievements of the year 2000 objective, called for producer and consumer countries and international organizations to promote priority action for achieving the aims specified in relation to field-level implementation of sustainable forest management. The pilot efforts listed above, in addition to providing feed-back and information to national-level activities in pursuance of sustainable forest management, will help support action aimed at achieving the ITTO Year 2000 Objective, by providing information on practical experience and results.

D. Criteria and indicators and forest product certification

57. Many of the field testing activities mentioned above include specific mention of the examination of possibilities of linking criteria and indicators with certification of products from sustainably managed forests.

58. Numerous forums have been established over recent years to discuss and develop mechanisms and promote action aimed at underpinning forest product certification, with links to the promotion of sustainable forest management. 10/ National-level activities to help promote future certification are also under way in a number of countries. 11/

59. A large number of meetings and conferences have, furthermore, been held on sustainable forest management with a focus on certification of products from sustainably managed forests, both at national and regional/international levels. 12/

E. Exchange of experience and know-how: dissemination of information

60. A rapidly expanding debate on sustainable forest management, has been taking place over the past few years, among policy makers, scientists, technicians and the general public. It has been coupled by greatly increased exchange of information, experiences and know-how both between countries and among the various international initiatives under way. As a consequence, there is heightened global awareness of issues at stake, and decision makers and the general public today commonly acknowledge that all kinds of forests can, in principle, be sustainably managed to produce a range of protective, productive, environmental and social benefits, in perpetuity. Such a basic recognition of the renewability and possibility of multiple use of the resource will help promote and strengthen supporting national policies and should facilitate the introduction and large-scale implementation of sustainable forest management practices.

61. Discussion on mutually agreeable concepts and the identification of quantifiable indicators for sustainable forest management has, furthermore, facilitated dialogue between various groups of interested parties, whose interests have earlier been seen as largely contradictory, competitive, or even incompatible.

IV. FUTURE CHALLENGES

A. Harmonization of concepts and terminology

62. The lack of internationally agreed concepts and terms could seriously hamper future progress, especially in the implementation phases of the work.

63. In line with experiences outlined in the above sections, a balance needs to be maintained between the economic, environmental, social and cultural dimensions of forest management in order to ensure sustainability of efforts. Excessively high expectations with regard to any one of the basic criteria is likely to result in action which may not be compatible with specified, overall national development goals (e.g., as expressed in the working list of indicators of sustainable development for decision-making related to chaps. 8 and 40 of Agenda 21). To avoid having any one interest group dominating the debate and subsequent action, it is of utmost importance for all those concerned to continue openly to discuss priorities and aspirations and that genuine efforts be made to reach consensus.

B. Comparability of criteria and indicators

64. Criteria and indicators are closely related to national conditions, to the significance and functions of forests in the countries concerned, and to the general policy framework applied by countries in forestry and related fields. Thus, while the basic ingredients will be largely the same, the relative importance and priority assigned to individual criteria and indicators may vary among countries. The implications of the need to consider specific, national characteristics in the implementation of internationally agreed criteria and indicators are still to be clarified, especially as regards coordinated international action, comparability between countries and potential convergence, and possibilities of continuing to maintain trust and mutual acceptance among countries, international initiatives, and different interest groups.

C. Implementation of criteria and indicators

65. There is a well recognized need for increased testing and implementation of national-level indicators and for regular dialogue among participating countries and between them and the secretariats of corresponding initiatives. Periodic exchange of experiences on successful implementation, difficulties in application and possible ambiguities in the interpretation of concepts and methodologies is essential for attaining a gradual improvement in forest management practices and for maintaining the interest and commitment of collaborating countries. The role of the international secretariats in facilitating this process will be crucial, and the continuity of their functions or other, alternative, arrangements should be secured.

66. Increased overall flexibility in implementation strategies will need to be built so as to incorporate changes based on experience and new research findings and in response to evolving social, economic, environmental and institutional needs. Accordingly, to be successful in the long term, implementation of criteria and indicators must be seen as a continuing, dynamic process, supported by adequate resources and political commitment over time. Practical experience in this regard is at present lacking.

67. Twenty-seven national-level indicators have been specified by ITTO and by the Helsinki Process; 67 have been specified by the Montreal Process; and 47 have been proposed by the Tarapoto and the dry-zone Africa initiatives. Experience to date has shown that these internationally agreed-upon indicators represent an "ideal" rather than an absolute, final set. Flexibility, to allow for selectivity, is needed in the application and use of these criteria and indicators at the national level, even among countries operating under the framework of the same, international initiative.

68. There is urgent need critically to evaluate the relevance and possibilities for the regular assessment in individual countries of indicators specified at the international level. Indicators used by any given country need to be practical and convincing, and their application must be seen as both pertinent and cost-effective in the eyes of national decision makers, technical and scientific experts and the general public. Furthermore, indicators must directly or indirectly help respond to questions which are asked by potential

users. If trends in a given indicator do not reveal any real significance in assessing the sustainability of forest management, then the indicator may be considered irrelevant and need not be measured. A process of country-level implementation, recently begun in the case of the Helsinki and the Montreal Processes, will help respond to such questions. However, the compromises needed to maintain consistency between countries are still to be clarified.

69. A survey carried out by the United States Forest Service, involving 80 individuals in the technical and scientific community, including academics, representatives of the forest industry and environmental non-governmental organizations, reportedly found that out of the 67 national-level indicators for sustainable forest management agreed upon in the Montreal Process in which the United States participates, only nine could be measured by existing means. For another 20-25 indicators, data were reportedly not currently available but could be generated if sufficient resources were allocated. A major bottleneck for implementation, related to lack of know-how and resources, was thus preliminarily flagged. Unless adequately addressed, such lack of information and of appropriate methodologies is likely seriously to impair implementation and lead to a loss of momentum and commitment.

70. Over the past two years, results from a test inquiry made within the framework of the Helsinki Process showed that data for indicators of the criterion related to the forest resource were available in most countries. Such data, however, were based on differing definitions, classifications and time intervals and were, therefore, not directly comparable.

71. Further, according to the same inquiry, data on non-wood products were available only for products that were, at the time, considered of particular value to society in a particular country; such products differed among countries and were apt to change frequently, making comparisons between countries difficult. Information relating to indicators on maintenance of the health and vitality of the forest ecosystem was scant; 13/ and information on indicators relating to biological diversity or social aspects was largely lacking. In general, it was noted that time series of observations were not available in most countries for the majority of the Helsinki Process indicators, and that determination of past trends was, therefore, frequently not possible.

72. The inquiry also clearly demonstrated that for international comparisons, further efforts were needed in defining terms and harmonizing classifications relating to forest-based information. Ample and recurring information gaps pointed to the need to increase research, especially into environmental, social and policy issues.

73. The above findings are in line with the CIFOR tests at the forest-management-unit level, which also revealed that considerable work is still needed to make the conceptual framework of criteria and indicators consistent and operational.

74. With regard to the incorporation of indicators for sustainable forest management into national and international forest inventories, the FAO/Finland Expert Consultation on the Global Forest Resources Assessment 2000 (Kotka III) was held in Finland in June 1996, in cooperation with ECE and UNEP, with the

support of Finland. Two studies, commissioned by FAO, which reviewed the implications of incorporating national indicators for sustainable forest management into future global forest resources assessments and possible modalities for doing so were discussed. The more conclusive of the two, which quantified results and findings, included consideration of the feasibility of systematic, worldwide measurement by countries of 80 internationally identified indicators and the possibility and potential usefulness of aggregating information on them at the global level. The study concluded that only 16 of the 80 indicators could, in principle, be considered for inclusion in future global forest resources assessments. 14/ Likewise, at Kotka III a working group on criteria and indicators, in considering the same 80 indicators, recommended that 11 should be included in FRA 2000 and an attempt should be made by FRA 2000 to assess a further 11 indicators. Of the indicators of the four main criteria and indicator processes, FRA 2000 will cover five of those in the Helsinki and Montreal Processes (out of 27 and 67, respectively), from four to five of those in the dry-zone Africa initiative (out of 47) and possibly from two to three of those in the Tarapoto Process (out of 47). 15/

D. Information needs, institutional capacity and resources

75. The availability of reliable, regularly up-dated and comparable information relating to specified sets of indicators is essential for sound debate and a precondition for monitoring the impact of forest management interventions and for evaluating national and international trends. Additional efforts will be needed in the future to ensure that such information is continually generated and regularly up-dated and that it is scientifically sound, technically valid, and a cost-effective way to respond to specific questions and needs.

76. It is clear that the current institutional capacity for implementing criteria and indicators, is grossly inadequate, especially in the developing countries. In many countries even basic data related to the area and type of forests are largely lacking. A concerted effort is required at the national and international levels to build the capacity needed to confront future information needs and to channel resources towards meeting specified aims.

E. Exchange of experience and know-how: dissemination of information

77. Since criteria and indicators cover a multiplicity of benefits from forests and forestry, future activities will require increased levels of coordination between forest and other related information systems and fields of activity, such as economy and employment, marketing and trade, and conservation of biological diversity.

78. The progress made in defining sustainability indicators in forestry has, in many respects, been pioneering and might provide useful information for attempts to define criteria and indicators for other forms of land use and in other sectors. However, present efforts in forestry are not widely known outside the sector. It will be important to bridge the existing information gap and, at the

same time, to follow closely developments in other areas of Agenda 21 (notably chaps. 10, 12, 13, 14, 15 and 40).

V. CONCLUSIONS AND PROPOSALS FOR ACTION

79. Since UNCED, intensive action in the forestry field and increased dissemination of information have led to heightened awareness of the need to manage forests sustainably and of the role that forests can, and should, play in national development. International and national dialogue has, furthermore, lead to a clarification of basic concepts and has brought together concerned parties from various levels of government, academia, the private sector and non-governmental organizations, increasing goodwill and confidence among these groups and providing a basis for constructive dialogue.

Proposal for action. It is important that the present momentum not be lost and that efforts be made at the international and national levels to pursue vigorously action aimed at conceptualization and, above all, implementation of criteria and indicators to guide and improve the sustainable management of all kinds of forests.

80. Over the past years, a growing number of countries have participated in several international initiatives aimed at defining and implementing national-level criteria and indicators for sustainable forest management. Thanks to international dialogue, the countries and regions that have recently joined such efforts have been able to benefit from earlier experience, while at the same time bringing new dimensions and ideas into the international process.

Proposal for action. FAO and other international agencies concerned should continue efforts to involve the countries and regions that have not yet participated in ongoing international initiatives on criteria and indicators, making full use of already established mechanisms, existing international forums and subregional and regional political groupings. All such countries are developing countries. They should be assisted in the implementation of criteria and indicators at the national level. International coordination of such efforts is important in order to avoid a proliferation of unrelated initiatives. Exchange of information, know-how and experience will be necessary to ensure comparability between initiatives and to avoid wasteful duplication of efforts.

81. Considerable progress has been made in the conceptualization of criteria and indicators for sustainable forest management. Work has also begun on harmonizing concepts and terms used.

Proposal for action. To support constructive dialogue, facilitate assessment and monitoring on a comparable basis and promote coordinated, field-oriented action, efforts should be intensified, under the leadership of international agencies such as FAO, UNEP and IUFRO, to reach consensus on key concepts and terms related to criteria and indicators for sustainable forest management and to harmonize terminology with that used in other, related fields of forestry.

82. It is widely recognized that some of the current descriptions of criteria and indicators may change over time, in response to emerging needs and new research findings and knowledge.

Proposal for action. Strategies at the international and national levels for the development and application of criteria and indicators should be flexible and allow for the incorporation of changing needs and new research findings.

83. While there appears to be general agreement on sustainability criteria, it has become increasingly clear that indicators, through which progress is monitored over time, must be tailored to meet specified economic, environmental, social and cultural conditions, operating within institutional, legal and policy frameworks specific to individual countries. There are thus likely to be marked differences in the sets of indicators adopted and applied by various countries and even among countries cooperating in the same international initiative. Priority assigned to given criteria and the associated indicators at the national and forest-management-unit levels, will also vary, to reflect prevailing conditions and needs.

Proposal for action. Based on the experience under various international initiatives on criteria and indicators for sustainable forest management, covering a wide range of forest and socio-economic conditions (see sect. II), the Panel may wish to note that five criteria may be used to characterize sustainable management of all types of forests - namely, extent of forest resources; biological diversity; productive functions of forests; protective and environmental functions of forests; and socio-economic functions and conditions. Furthermore, aspects of three other criteria may also be included, if applicable and as appropriate - namely, forest health and vitality; global carbon cycles; and policy and legal frameworks, including capacity to implement sustainable forest management.

Proposal for action. A flexible approach with a broad spectrum of indicators will need to be maintained within the framework of international initiatives in order to reflect national priorities and needs.

84. Since possible convergence need not necessarily affect all indicators in the same way, it should, in principle, be possible to identify an international core set of common, national-level indicators for sustainable forest management. Such indicators would most likely be related mainly to biological and physical resources, which are more easily comparable among countries than are social indicators. Specification of common indicators could facilitate country-based reporting on progress towards stated, common goals and would help determine overall, international trends.

Proposal for action. Efforts should be continued within the framework of ongoing initiatives and by the international community to review the desirability and possibilities of identifying a core set of common indicators to facilitate the assembly and handling of data and to help streamline reporting at the international level.

85. Assessment and monitoring of a small number of common indicators could, conceivably, be incorporated into permanent mechanisms such as the global forest resources assessment being coordinated by FAO (FRA 2000). Ensuring common measurement and assessment standards and methods worldwide is part of the framework of the preparation of FRA 2000, and some of the parameters to be assessed are directly related to indicators of sustainable forest management at the national level identified in the four main international processes.

Proposal for action. FAO and other national and international organizations concerned should continue to increase the number of parameters related to sustainability indicators to be estimated in future global forest resources assessments.

86. While conceptual thinking related to criteria and indicators at the national level is well advanced, work is only starting on their implementation. Such implementation implies reconfirmation by countries of the pertinence of the defined criteria and indicators to national realities and their testing and adoption, in principle, by all concerned parties. Ultimately, criteria and indicators should be reflected in national forest policies and should be included in prescriptions, regulations and national legislation governing implementation of sustainable forest management and field-level activities.

Proposal for action. Efforts by countries to test and adopt internationally agreed criteria and indicators at the national level, involving all concerned parties, should be greatly stepped up in those international initiatives that have already started the process of implementation. Countries collaborating in more recent initiatives, in which the stage of implementation has not yet been reached, should give high priority to that process in the future.

87. Implementation may be hampered, at least initially, by lack of information relevant to some of the indicators in current surveys and by deficiencies in assessment methodologies and in access to information on experiences in other international initiatives.

Proposal for action. Countries that have committed themselves to implementation of sustainable forest management through the application of agreed-upon criteria and indicators should allocate resources adequate to overcoming the above constraints. Maximum use should be made of the experiences of other countries and regions through an active exchange of information.

88. Identification of gaps in information and know-how related to the implementation of criteria and indicators for sustainable forest management can help to determine national research priorities in the forestry field while at the same time ensuring that forest management is founded on sound, scientific principles.

Proposal for action. Countries should take full advantage of the feedback from on-going initiatives on criteria and indicators when determining future research priorities.

89. International processes have, to date, focused on the conceptualization and implementation of national-level criteria and indicators for sustainable forest management. At the same time there must be consistency between national-level criteria and indicators and those applied at the forest-management-unit level. While management of a given forest management unit cannot satisfy all national-level criteria for sustainability, it must contribute to overall national goals of sustainability. The issue of linkages between national- and forest-management-unit level criteria and indicators has, however, not been sufficiently addressed.

Proposal for action. Further efforts are needed to clarify the relationship between national- and forest-management-unit level criteria and indicators and possible linkages of indicators at the forest-management-unit level with certification of sustainable forest management.

90. Efforts to improve prevailing forest management practices and the monitoring of trends through the application of criteria and indicators implies new and added demands for the regular collection, compilation and analysis of information and a consequent long-term commitment by individual countries and by the international community. Current institutional capacity, however, notably in many developing countries, is grossly inadequate for implementing forest management, let alone for monitoring its sustainability through the application of criteria and indicators.

Proposal for action. National capacities, especially in developing countries, must be urgently strengthened not only to implement sustainable forest management but also to collect and compile reliable data for monitoring the sustainability of forest management at the national level and to ensure that the information generated is relevant, scientifically sound and technically valid.

Proposal for action. Concerned international organizations should be involved in the timely and regular synthesis and dissemination of relevant information at the global level.

91. If sustainable forest management as conceptualized at the international level is to be widely implemented at the national level on a lasting basis, international solidarity in the sharing of technologies, know-how and information and in making resources available to meet common needs must receive increased attention.

Proposal for action. Due attention should be paid by the donor community to the calls for technical and financial assistance and for the transfer of appropriate technologies to developing countries in support of implementation of sustainable forest management, as recorded in the "Forest Principles" (especially paras. 8c, 10, 11 and 12).

92. There are few domestic or international policies that do not in some way affect the management of a nation's forests. The area of forests and the purposes for which they are managed are strongly influenced by national policies in sectors other than forestry (e.g., overall economic policy, land tenure and

agricultural development, recolonization programmes, infrastructure) and the impact of global developments such as those in international trade.

Proposal for action. It is important for Governments to ensure that policies and programmes in sectors other than forestry are supportive of the sustainable management of forests and that sustainable forest management is an integral component of national sustainable development strategies. Accordingly, criteria and indicators for sustainable forest management should be cross-connected with those of other sectors.

Proposal for action. To ensure a solid basis for lasting success in sustainable forest management, overall consistency must be ensured between the implementation of criteria and indicators and other activities undertaken in follow-up to recommendations contained in the "Forest Principles" and in chapter 11 of Agenda 21. Close linkages must also be forged with national and international action taken within the framework of related chapters of Agenda 21 - notably, chapters 10, 12, 13, 14, 15 and 40.

Notes

1/ Report of the United Nations Conference on Environment and Development, Rio de Janeiro, 3-14 June 1992, vol. I, Resolutions Adopted by the Conference (United Nations publication, Sales No. E.93.I.8 and corrigendum), resolution 1, annex II.

2/ Non-Legally Binding Authoritative Statement of Principles for a Global Consensus on the Management, Conservation and Sustainable Development of All Types of Forests. See ibid., resolution 1, annex III.

3/ Official Records of the Economic and Social Council, 1995, Supplement No. 12 (E/1995/32), chap. I.D., sect. 4, annex I, part III (III), para. 2.

4/ Ibid.

5/ Category III: Scientific research, Forest assessment and development of criteria and indicators for sustainable forest management; programme element 2: Criteria and indicators for sustainable forest management.

6/ Parallels can, in this regard, be drawn between experiences at the national and the forest-management-unit levels. Preliminary results from the CIFOR tests in Indonesia, Côte d'Ivoire and Brazil suggested that more than half of the forest-management-unit criteria and indicators relating to the policy and legal framework and to ecological and production aspects were common to test sites in all three countries. There was, however, a marked and sharp decrease in this level of commonality in criteria and indicators relating to the social aspects of forest management.

7/ Appropriate linkages should, in this respect, be made with work carried out by countries in relation to IPF programme element III.1.

8/ The terms include: forest land; other wooded land; exploitable; unexploitable; stocked forest; unstocked forest; scrub, shrub, bushland; forest under active management; growing stock; natural forest; plantation forest; forest fallow; eco-floristic zone; volume over bark; biomass; deforestation; fuelwood, charcoal; industrial roundwood.

9/ In respect to issues dealing with research, appropriate linkages should be made with work carried out by countries in relation to IPF programme element I.1.

10/ These include the African Timber Organization (ATO) initiative for green environmental marking for timber from Africa; the Study Group on Sustainable Forest Management, related to the ISO 14000 standards (the International Environmental Management Standards of the International Standards Organization); the Eco Management and Audit Scheme (EMAS) of the EU, which examines the possibilities of developing a system of certification for forestry to supplement ISO initiatives; the European Expert Group on Forest Product Certification (EU), discussing the possibility of common forest certification throughout the EU; the new EU unit for forest industry matters is also looking at the question of forest product certification; the ECE Timber Committee "team of specialists", with a mandate to study the consequences of the introduction of systems of certification in member countries; the Nordic Forest Certification Project, within which governmental institutions, the forest industry, private owners, citizens' groups and environmental non-governmental organizations have joined forces to develop mechanisms for forest product certification to promote efforts in sustainable forest management in the five Nordic countries (Denmark, Finland, Iceland, Norway, Sweden). The role of the Forest Stewardship Council as a "certifier of certifiers" should also be mentioned in this connection.

11/ These include, among others, an independent, national institution, established with governmental support, in Indonesia, to help establish a system of environmental marking and forest product certification. In Malaysia, the forest industry is working with the support of the Government with the aim of establishing certification schemes for timber and wood products for export. In Brazil, the private forestry sector has taken initiatives in certification under the acronym CERFLOR, to ensure the supply of acceptable raw materials for important markets. Initiatives are also under way in several developed countries, notably in Europe.

12/ Recent events include meetings of the Study Group on Sustainable Forest Management, established within the framework of ISO 14000 (London, March 1996, and Brazil, June 1996); the Malaysia/Canada Conference on Forest Product Certification (Kuala Lumpur, Malaysia, May 1996); the International Conference on Certification and Labelling of Products from Sustainably Managed Forests (Brisbane, Australia, May 1996); and the Expert Working Group Meeting on Trade, Labelling of Timber and Certification of Sustainable Forest Management, scheduled for 12-16 August in Bonn, co-sponsored by Germany and Indonesia.

13/ For information being gathered in 34 European countries, the United States and Canada relating to the effects of air-borne pollutants on forests, see E/CN.17/IPF/1996/17.

14/ Twelve (out of 22 considered) of them referred to the extent of the forest resource; 1 (out of 18 considered), to health and vitality of the forest; and 3 (out of 11 considered), to production of wood and other forest products. "Possible" additional indicators, to be further reviewed, included the following: extent of the forest resource (5); biological diversity (1); health and vitality of the forest (1); production of wood and non-wood products (1); soil and water conservation (2); social and economic functions (0). Ten additional indicators to the 16 identified above could conceivably be considered for incorporation into global-level assessments, pending additional resources and information. See E/CN.17/IPF/1996/25.

15/ See E/CN.17/IPF/1996/10.